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Message Text

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ORIGIN COME-00

INFO OCT-01 CIAE-00 DODE-00 EB-07 NRC-05 NSAE-00 USIA-06

TRSE-00 EUR-12 ERDA-05 ISO-00 (ISO) R

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RPE
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FM SECSTATE WASHDC
TO USMISSION OECD PARIS

C O N F I D E N T I A L STATE 220683

EXCON

EO. 11652:XGDS-1

TAGS: ESTC, COCOM, PL, US

SUBJECT: US VACUUM DEPOSITION SYSTEM TO POLAND - IL 1355
AND 1204

REF: (A) OECD PARIS 24107, (B) COCOM DOC (76) 1180

1. BROCHURE ASSOCIATED WITH THIS CASE STATES THAT "NEW ALLOY DEPOSITION TECHNIQUE PRODUCES SILICON-DOPED ALUMINUM METALLIZATION LAYERS THAT INHIBIT FURTHER SILICON DIFFUSION INTO ALUMINUM DURING HEAT TREATMENT. THIS TECHNIQUE PREVENTS SHORTS AT JUNCTIONS AND ALLOWS HIGHER SPEED THIN JUNCTION SEMICONDUCTOR DEVICES."

2. USE OF SPECIAL ROTATING FIXTURES COMBINED WITH THE USE OF ALUMINUM ALLOYED WITH SILICON METALLIZING MATERIAL RESULTS IN THIN, UNIFORM CIRCUIT METAL INTERCONNECTS WHICH DO NOT TEND TO ETCH OR DIFFUSE THROUGH THE SILICON OXIDE INTO THE ACTIVE SILICON REGIONS THEREBY CAUSING ELECTRICAL SHORTS. THIS PROPERTY OF PURE ALUMINUM TO
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PENETRATE SILICON OXIDE DURING HEATING IS A WELL-KNOWN

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DRAWBACK WHICH THE US MANUFACTURER PROPOSES TO COUNTER BY
USING A TWO PERCENT SILICON ALLOYED ALUMINUM MATERIAL.

THE VACUUM COATER IS USED ONLY TO DEPOSIT UNIFORMLY
THIN LAYERS OF THE ALUMINUM MATERIAL AND CANNOT PRODUCE
NEW TYPES OF SILICON JUNCTIONS.

3. IT IS HOPED THIS ADDITIONAL INFORMATION WILL
ENABLE FRENCH TO APPROVE CASE. ROBINSON

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